

**IN THE CLAIMS:**

The following is a complete listing of claims in this application.

1. (currently amended) A poison resistant combustible gas sensing element comprising:

an electric heating element;

a first layer coated on the electric heating element and comprising a precious metal catalyst supported on a first porous oxide support, the precious metal catalyst catalyzing combustion of a combustible gas to be detected by the element; and

a second layer overlaying the first layer, and comprising a catalytic compound which is not substantially active toward combustible gases, but which provides sites which are reactive with and which are capable of trapping gases and vapors which poison the precious metal catalyst, said catalytic compound being supported on a second porous oxide support, with the supported catalytic compound being coated onto the first layer to form thereby the second layer.

2. (previously presented) The sensing element of claim 1, wherein the catalytic compound is at least one compound selected from the group consisting of:

a) metal oxides selected from the group consisting of oxides of vanadium (V), chromium (Cr), manganese (Mn), iron (Fe), cobalt (Co), nickel (Ni), copper (Cu), molybdenum (Mo), tin (Sn), antimony (As), lead (Pb), bismuth (Bi), ruthenium (Ru), cadmium (Cd), rhenium (Re), osmium (Os), and iridium (Ir);

b) solid acids selected from the group consisting of tungsten oxide/zirconia, sulfated zirconia, niobium oxide, silica-alumina, mesoporous aluminosilicates, mesoporous sulfated zirconia and acid-activated clays;

c) solid bases selected from the group consisting of magnesia, alkaline-doped alumina and alkaline-doped zeolites; and

d) metal-loaded zeolites and clays.

3. (previously presented) The sensing element of claim 2, wherein the metal oxide is supported on a porous oxide selected from the group consisting of alumina, zirconia, silica, yttrium-stabilized zirconia, cerium-stabilized zirconia and lanthanum-stabilized zirconia.

4. (previously presented) The sensing element of claim 1, wherein the heating element comprises a helical filament heater.

5. (previously presented) The sensing element of claim 1, wherein the heating element comprises an electric film heater.

6. (previously presented) The sensing element of claim 1, wherein the catalytic compound of the second layer is in solid form.

7. (previously presented) The sensing element of claim 1, wherein the catalytic compound of the second layer is in powder form.

8. (previously presented) The sensing element of claim 1, wherein the second layer comprises multiple layers of catalytic compounds.

9. (previously presented) The sensing element of claim 1, wherein the second layer comprises an external filter.

10. (previously presented) The sensing element of claim 9, wherein the external filter comprises a catalytic compound supported on paper, or in the form of a blank or monolith.

11. (currently amended) The sensing element of claim 1, wherein the second layer comprises at least one layer comprising a precious metal catalyst supported on a porous oxide, and at least one layer comprising a said catalytic

compound supported on a said second porous oxide support.

12. (currently amended) An apparatus for detecting a combustible gas comprising:

a gas sensing element including an electric heating element, a first layer coated on the electric heating element and comprising a precious metal catalyst supported on a first porous oxide support, the precious metal catalyst catalyzing combustion of a combustible gas to be detected by the sensing element, and a second layer overlaying the first layer, and comprising a catalytic compound which is not substantially active toward combustible gases, but which provides sites which are reactive with and which are capable of trapping gases which poison the precious metal catalyst, said catalytic compound being supported on a second porous oxide support, with the supported catalytic compound being coated onto the first layer to form thereby the second layer; and

a compensating element comprising an electric heating element, said compensating element not including a catalyst capable of catalyzing combustion of a combustible gas to be detected by the sensing element.

13. (previously presented) The apparatus of claim 12, further comprising an electrical circuit to which the sensing element and compensating element are connected, said electrical circuit being constructed and arranged to detect changes in resistance of the sensing element and compensating element.

14. (previously presented) The apparatus of claim 13, wherein the electrical circuit comprises a Wheatstone bridge including a voltmeter.

Claims 15-20 (canceled).

21. (new) The sensing element of claim 1, wherein said second layer is formed by coating a slurry of the catalytic

compound supported on the second porous oxide onto the first layer.

22. (new) The sensing element of claim 12, wherein said second layer is formed by coating a slurry of the catalytic compound supported on the second porous oxide onto the first layer.